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YDSS INTERCEPTOR TRUNK SEWER PROJECT UPDATE

The Transportation and Works Committee recommends the adoption of the recommendation contained in the following report, November 1, 2005, from the Commissioner of Transportation and Works:

1. RECOMMENDATION

It is recommended that this report be received for information.

2. PURPOSE

The purpose of this report is to provide members of Transportation and Works Committee and Regional Council with an update on the findings of the Peer Review Process, as per Report No. 6, Clause 1, Recommendation 2, June 23, 2005. This recommendation required staff report back to committee with the full results of the peer review at least 30 days prior to the award of the contract for the YDSS Interceptor Trunk Sewer.

Additionally, the report provides an update on the progress in responding to the conditions set out by the Minister of the Environment in her letter dated October 1, 2004.

3. BACKGROUND

3.1 Part II Order (Bump-Up) Request Denied with Conditions

On October 1, 2004, the Minister of the Environment formally notified the Region that she had received a request to consider a Part II Order on all unfinished YDSS Projects. Although the Minister denied the Part II Order, a number of project specific conditions were imposed which have resulted in significant changes in the scope of works for the YDSS Interceptor project. The following provides a summary of the conditions specific to this project (*Attachment No. 1, Minister's Letter of October 1, 2004*):

- A new comparison of alternative route alignments and a review of alternative sewer design and construction techniques.
- Pro-active, strategic, and ongoing stakeholder relationship management.
- Technical assessments sufficient for all permits and approvals.
- Assessment of "The Cumulative Impact" of dewatering on Regional projects as part of the application for PTTW.
- Independent peer review of technical studies.
- Independent technical resources for individual well complainants.

- Additional monitoring and reporting requirements during and after construction.
- Public accessibility to York's project documents.

3.2 Preferred Alternative

The Minister's October 1st letter stated that the conditions were intended "*to ensure that the environment is protected and the environmental concerns which have been raised are addressed*". Some conditions are applicable over the duration of the project and the Region's activities and progress on meeting these conditions will be reported on an annual basis. A summary of the compliance with these conditions is in Table 1 of this report.

Condition 8 required York Region to conduct a new comparison of alternative route alignments for the YDSS Interceptor Trunk Sewer. The Region has completed this work in full consultation with the public and other interested stakeholders. Ten options and four alternative route alignments were assessed using a comprehensive set of criteria that included the potential impacts of dewatering. Based on this assessment, the preferred option was identified as a sewer along 19th Avenue and Leslie Street with tunnelling along 19th Avenue using Earth Pressure Balance (EPB) tunneling technology and open cut construction along Leslie Street. The preferred option includes the following features:

- Least amount of dewatering including a lower rate of planned dewatering required for shafts compared to the Yonge Street-Elgin Mills Tunnelled option.
- Least impacts to the Oak Ridges Moraine Aquifer Complex.
- The capability to mitigate impacts on natural features with the use of EPB tunneling.
- Least amount of disruption to local residents, businesses and traffic.
- Costs approximately \$11 million less than the Yonge-Elgin Mills tunnel using EPBM technology.

3.3 Peer Review

The Minister's Condition 7 states that "*The Regional Municipality of York shall ensure that all technical studies prepared in support of this project be independently peer reviewed by appropriate experts, including, but not limited to, fishery biologists and hydrogeologists, and the review shall be documented in a report*". This condition requires the implementation of an independent body of experts to peer review all technical documentation.

Under the coordination of Craig Mather, former CAO for the Toronto and Region Conservation Authority (TRCA), a panel of recognized experts in the fields of terrestrial/ecology, fisheries, geotechnical/tunnelling, hydrogeology and fluvial geomorphology were assembled with a specific Terms of Reference. The prime directives of the Peer Review Team's (PRT) Terms of Reference was as follows:

- Compliance with the Provincial Minister of Environment's Condition 7, related to peer review of technical studies by appropriate experts.
- To provide independent expert comment on the robustness of the Project Team's application of sound science and/or the best practices, technology and ecosystem protection concepts related to the potential effects of the proposed work on the environment.
- Review of the supplied technical reports in accordance with each expert's respective individual disciplines.
- Comment on the overall acceptability of approach
- Comment on the appropriateness and completeness of the Evaluation Criteria Matrix in each expert's discipline.
- Comment on the supportability of the conclusions arrived at for each sub-criteria
- Comment on the respective Appendices related to their specific discipline.

3.3.1 Members of the Peer Review Team:

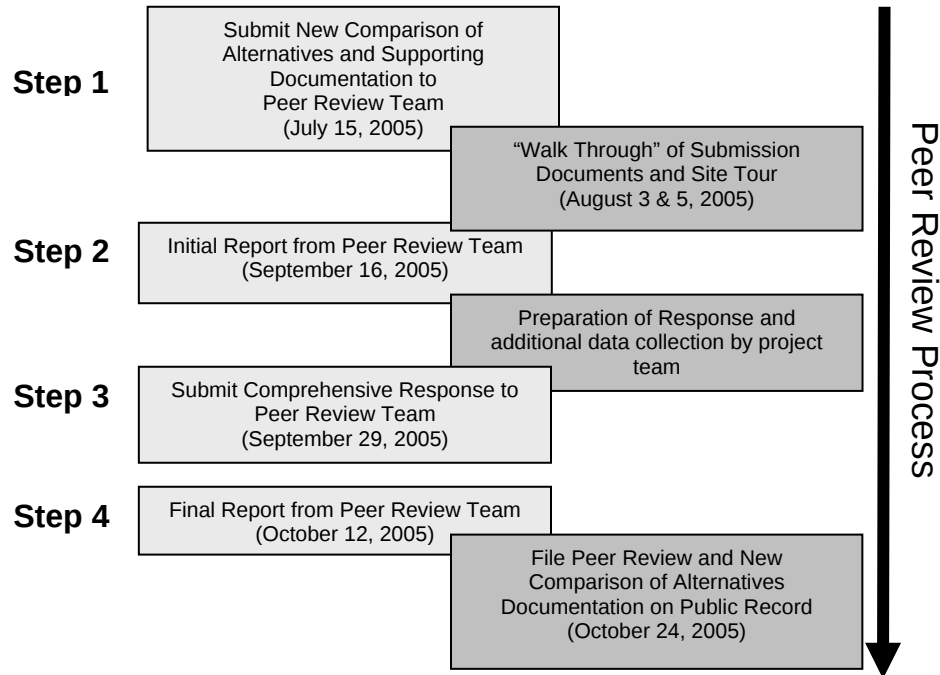
The composition of the Peer Review Team was as follows:

Team Coordinator	Mr. Craig Mather (former Chief Administrative Officer of TRCA)
Terrestrial/Ecology	Dr. Paul Eagles, B.Sc. Biology, M.Sc., Ph.D University of Waterloo
Fisheries	Mr. Serge Metikosh, B.Sc.(Biology) Golder Associates Member American Fisheries Society, and former employee of the Department of Fisheries and Oceans.
Geotechnical/Tunnelling	Mr. John Westland, B.A.Sc.(Hons) Geo-Engineering, M.A.Sc., Civil Engineering Golder Associates
Hydrogeology	Dr. Ken Howard, MSc, PhD, PHG, CGeol FGS, PGeo University of Toronto
Fluvial Geomorphology	Dr. Robert Newbury, PhD, PEng. Simon Fraser University, British Columbia

4. ANALYSIS AND OPTIONS

4.1 Peer Review Process

The peer review was a four step process as follows:



A summary of the peer review team process is as follows:

Step 1

Two weeks after receiving the documents for the YDSS Interceptor Trunk Sewer project, the PRT was assembled for three days in Richmond Hill. At this time, the project team made a presentation to formally walk the PRT through the documentation and the areas specific to each member of the team. Over this period, the PRT was provided the opportunity to ask questions, seek clarification, focus issues and generally make available all possible information in preparation for their respective reviews and assessments.

Step 2

The Initial Peer Review Team report was forwarded to the Region on September 16, 2005. The Report entailed a total of 153 comments under a number of categories including organization and readability, cross referencing of information, recommendations for additional work, technical issues, and specific improvements to documentation. A summary of the initial peer review team report is as follows:

- The Peer Review Team was impressed with the amount of data and found that the level of detail provided in the various reports exceeded that required by comparable studies and is sufficient to serve as a basis for route selection.
- Based on the review of the environmental components only of the YDSS Interceptor Trunk Sewer Study, the Peer Review Team did not find any reason to disagree with the selection of Option D (19th Avenue (tunnelled)/Leslie Street) as the preferred route.

Deficiencies that were noted by the PRT in its initial report are summarised below:

- Organisation and cross referencing of the information within the report needs improvement.
- Insufficient characterization of geotechnical properties and profiles in relation to the sewer construction along the alternative routes.
- Lack of details with respect to the fluvial geomorphological aspects of the study.
- Quality of the interpretations on a number of the pumping tests.
- Further improvements and suggestions were identified for the Permit To Take Water (PTTW) and detailed design phases of the project.

Step 3

These initial deficiencies and suggested improvements were addressed by the project team in a supplementary submission on September 29, 2005. This was a comprehensive submission that included the following:

- A detailed response to each peer review comment.
- Additional maps and figures.
- Additional geotechnical information.
- Additional interpretation of the pump tests using recommendations provided by the PRT.
- Additional geomorphological details related to stream monitoring, erosion thresholds, and stream characterization.

Step 4

The PRT reviewed the Region's submission and provided a final report dated October 12, 2005.

The final report provided commentary on the Region's submission. The PRT members were satisfied with the response to their individual comments and no additional response was necessary at this stage. They did note however that there were outstanding items that need to be addressed during the Permit To Take Water application.

Based on the above, the peer review of the "new comparison of alternative route alignments" is now complete. The PRT, based on their review of technical and environmental documentation prepared in support of the "new comparison of alternative route alignments" in the disciplines of terrestrial/ecology, fisheries, geotechnical/tunnelling, hydrogeology, and fluvial geomorphology, did not find any environmental reason to disagree with the selection of the preferred route.

It should be noted that the complete study report and the peer review documentation has been made available to the public and has been posted on the Project Website (<http://ydss.cenet.ca/>).

4.2 Compliance with Minister's Conditions – Status Update

On October 17, 2005 four (4) bound volumes of documentation were submitted to the MOE in full or partial compliance with conditions 5,7,8,9, and 10. These were comprised of:

1. Baseline Report – a compilation of the background information used to compare alternative route alignments.
2. New Comparison of Alternative Route Alignments – a technical, social/cultural and environmental assessment of the YDSS Interceptor Trunk Sewer Options and selection of the 19th Avenue (tunnelled)/Leslie Street option. This report also details:
 - Alternative sewer design and construction techniques
 - Compliance with the Oak Ridges Moraine Conservation Plan
 - An extensive Public Engagement program
 - Independent Peer Review Process
 - Comparative cost implications of each option
3. Appendices A-J to the New Comparison of Alternative Route Alignments.
4. Complete peer review documentation.

At the time of submission, a presentation was made to MOE staff to facilitate their review of this extensive documentation. This included a tour of the top ranked preferred routes to familiarize MOE staff with the project.

On October 24, 2005 all documentation was made available for public review at the clerk's offices in Richmond Hill and York Region, Richmond Hill Central Library, offices of Earth Tech Consultants and on the project website at <http://ydss.cenet.ca>

The following table summarizes the status of compliance with the Minister's Conditions.

Table 1
Summary of Compliance with Minister's Conditions

Condition	Status
1. York Region shall develop monitoring and mitigation measures for the dewatering activities associated with this proposed project, including measures that address potential impacts to well users and the natural environment. These monitoring and mitigation measures shall assess the impacts of this project on long-term sustainability of groundwater and surface water resources in the watershed and mitigate these impacts.	Currently under development for inclusion within the PTTW application and the contract documents.
2. York Region shall hold a public information meeting to present these mitigation and monitoring measures	Meeting will be held following receipt of the

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Condition	Status
within two months of receiving notice that the Director, Ministry of the Environment, has approved the associated Permit to Take Water application for this project.	PTTW.
3. York Region shall assess and address, as part of any subsequent application for Permits to Take Water for this proposed project, any cumulative impacts on the environment of additional dewatering activities occurring as a result of any other related sewer projects.	Has been completed and will be included with the PTTW application.
4. For the purpose of this proposed project, the Regional Municipality of York shall maintain its well complaint review committee process of Regional Council as an appropriate complaint resolution mechanism for any well impacts associated with this project. In addition, the Regional Municipality of York shall develop a program to provide independent technical advisory support for individual property owners to facilitate well interference complaints.	The Region's Complaint Review Committee and the independent technical advisory services will be available to well interference complainants during project implementation.
5. York Region shall ensure that all technical studies, reports, and other documents prepared for this proposed project become part of the public record. These shall be made available for review upon request by any person and shall be accessible from the Regional Municipality of York's web site.	All documents are available on the project website.
6. York Region shall, prior to making any application to this ministry for a Permit to Take Water to carry out dewatering activities for this proposed project, consult with the public on the application.	Consultation will be undertaken in November and December.
7. York Region shall ensure that all technical studies prepared in support of this project be independently peer reviewed by appropriate experts, including, but not limited to, fishery biologists and hydrogeologists, and the review shall be documented in a report	Peer review of the "new comparison of alternative route alignments" is complete. Peer review of the PTTW will be initiated in November.
8. York Region shall conduct a new comparison of alternative route alignments having consideration for, among other criteria to be applied in the comparison, the potential dewatering impacts of each alternative. This shall be carried out in full consultation with the public and interested stakeholders. This comparison and the results, including the preferred route alignment	Complete (submitted to MOE on October 17, 2005 and placed on Public Record October 24, 2005)

Condition	Status
which is selected, shall be documented in a report for the public record for this proposed project.	
9. York Region shall conduct a detailed assessment of the impacts of any dewatering activities required to be carried out for the preferred alternative route alignment for this proposed project	Assessment is in progress and will be completed in November, 2005.
10. York Region shall carry out and document a review of sewer design and construction techniques. The results of this review shall be used to evaluate all reasonable design and construction techniques for this proposed project, and to select the preferred sewer design and construction techniques for the preferred alignment for this proposed project. The evaluation shall include an assessment of the impact of the design and construction techniques on all local natural heritage features including, but not limited to, the provincially significant Rouge Headwaters Wetland Complex and the Jefferson Forest Area of Natural and Scientific Interest. The results of the evaluation and the reasons for the selection of the preferred design and construction techniques shall be documented in a report by the Regional Municipality of York to be placed in the public record for this proposed project. The report shall be provided, prior to construction, to the Director, Ministry of the Environment, Central Region.	Complete
11. York Region shall submit an annual report to the Director, Environmental Assessment and Approvals Branch, Ministry of the Environment, indicating the date that each condition was fulfilled and the results of the conditions having been fulfilled.	An Annual Report will be submitted to the MOE in November 2005.

4.3 Next Steps

By early November, the project team will be submitting the Permit to Take Water (PTTW) documentation to the Peer Review Team in compliance with conditions 3,6,7 and 9. Specifically to address Condition 6, a Public Information Forum has been set for December 8, 2005 to consult with the public on the PTTW document. Regional staff will be available to meet with interested residents and stakeholders to discuss the PTTW as it relates to the preferred route for the YDSS Interceptor Trunk Sewer of 19th Avenue (tunnelled)/Leslie Street.

The construction of the sewer will be undertaken using two separate contracts. The tender documents are currently in development and the contracts will likely be tendered late in 2005.

5. FINANCIAL IMPLICATIONS

A 30% contingency (range from \$9 million for Option C 19th Avenue open cut to \$20.9 million for Option B Stouffville Road forcemain) has been included in the Financial section of the New Comparison of Alternatives. This contingency is applied to all alternatives considered under this project. Staff will report back to Council on the detailed cost estimates following completion of the Detailed Design Phase of the project. The prices from the Bathurst Langstaff Design/Build Project which will employ Earth Pressure Balance Machine tunnelling technology will provide great insight as to the current market conditions and will provide excellent costing information for the YDSS Interceptor Project. This information should be available in January 2006.

6. LOCAL MUNICIPAL IMPACT

This sewer is required to accommodate future growth within York Region as well as alleviate constraints within the Yonge Street Sewer by intercepting the flows and diverting to the Lower Leslie Street Trunk Sewer. Specifically, the YDSS Interceptor Trunk Sewer is required for Newmarket, Aurora, Richmond Hill and East Gwillimbury and the community of King City to fully utilize the June, 2005 servicing allocation. The trunk sewer expansion will continue to provide service to the Towns of Markham, Richmond Hill, Aurora, Newmarket, Whitchurch-Stouffville, the City of Vaughan and the communities of Holland Landing, Queensville and King City.

To ensure timely planned development approvals, the YDSS Interceptor Trunk Sewer must be in place within a timely manner. This project is considered critical to the ability to provide wastewater servicing within the Region.

The preferred route along 19th Avenue combined with the planned road reconstruction works along 19th Avenue provides a coordinated solution to the infrastructure needs in that area.

7. CONCLUSION

The peer review of the new comparison of alternative route alignments is complete and complete documentation for this phase of the project has been submitted to the Ministry of the Environment. The Region's project team is finalizing the PTTW application and the tender documents for the project.

The Senior Management Group has reviewed this report.

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(The attachment referred to in this clause was included in the agenda for the November 2, 2005 Committee meeting.)